

Methamphetamine

This sheet is about exposure to methamphetamine in pregnancy and while breastfeeding. This information should not take the place of medical care and advice from your healthcare provider.

What is methamphetamine?

Methamphetamine is also known as metamfetamine, methylamphetamine, and desoxyephedrine. Other names for methamphetamine include “meth,” “crystal meth,” “crank,” “speed” or “ice.” Methamphetamine has been smoked, snorted, swallowed, injected, inhaled, taken rectally, or dissolved under the tongue.

Methamphetamine has been used illegally without medical supervision. It has also been prescribed by a healthcare provider for attention deficit hyperactivity disorder (ADHD). This sheet will focus on the use of methamphetamine without medical supervision.

I take methamphetamine. Can it make it harder for me to get pregnant?

Methamphetamine has not been studied to see if using it could make it harder to get pregnant.

I just found out that I am pregnant, should I stop taking methamphetamine?

If you are using methamphetamine without medical supervision (sometimes called recreational use), treatment is available to help you stop. Talk to your healthcare provider as soon as possible so that you can start treatment. If you do not have a healthcare provider, call the national number for drug treatment referral at 800-662-4357. When you call, let them know that you are pregnant so that you can get connected to the best facility to meet your needs.

Does taking methamphetamine increase the chance of miscarriage?

Miscarriage is common and can occur in any pregnancy for many different reasons. Based on the studies reviewed, methamphetamine use might increase the chance for miscarriage.

Does taking methamphetamine increase the chance of birth defects?

Every pregnancy starts out with a 3-5% chance of having a birth defect. This is called the background risk. Based on the studies reviewed, it is not known if methamphetamine increases the chance for birth defects above the background risk. Information on whether methamphetamine increases the chance of birth defects is mixed. This makes it hard to know the actual risks for each person who uses methamphetamine.

What can I do to find out if the baby has a birth defect or other problems?

It is important to talk with your healthcare provider about any exposures you have had during your pregnancy. They can help you find treatment or support and can go over any screening options that are available. A detailed ultrasound can screen for some birth defects. There is no test in pregnancy that can look for learning problems. Once your baby is born, you should also tell your child’s healthcare provider so your baby can get the care that is best for them.

Does taking methamphetamine in pregnancy increase the chance of other pregnancy-related problems?

Methamphetamine use has been linked to a higher chance for preterm delivery (delivery before 37 weeks of pregnancy), poor growth (babies born too small and/or with a small head size), and low birth weight (weighing less than 5 pounds, 8 ounces [2500 grams] at birth). Some studies have suggested that methamphetamine use in pregnancy can increase the chance for high blood pressure, placental abruption (the placenta pulls away from the uterus) and for fetal death or infant death. Some studies also show an association between methamphetamine misuse and a higher chance of

postpartum mood disorders. Pregnancy complications are more likely to happen when methamphetamine is used throughout the whole pregnancy or when taken at high doses.

Will my baby have withdrawal if I continue to take methamphetamine?

When people who are pregnant use methamphetamines near the end of their pregnancy, babies could show signs of withdrawal after they are born. Symptoms can include trouble eating, sleeping too little or too much, having floppy (poor) muscle control or tight muscles, being jittery, and / or having a hard time breathing. Withdrawal symptoms usually go away within a few weeks but can last for a few months. The baby might need to be admitted to the special care nursery (NICU). It is important that your healthcare providers know you are taking methamphetamine so that if symptoms occur your baby can get the care that is best for them.

Does taking methamphetamine in pregnancy affect future behavior or learning for the child?

Studies have suggested that children who were exposed to methamphetamine during pregnancy could have a higher chance for changes in their brain development, as well as learning and behavior problems later in life.

Breastfeeding while taking methamphetamine:

Methamphetamine can pass into breast milk. Methamphetamine should not be used without medical supervision while breastfeeding. If methamphetamine is used, it has been suggested to express and discard breastmilk for 48-100 hours. Be sure to talk to your healthcare provider about all of your breastfeeding questions.

If a male takes methamphetamine, could it affect fertility (ability to get partner pregnant) or increase the chance of birth defects?

Methamphetamine misuse might affect the sperm, making it harder to get someone pregnant. Studies have not been done to see if methamphetamine could increase the chance of birth defects above the background risk. In general, exposures that fathers or sperm donors have are unlikely to increase risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures at <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/>.

Selected References:

- ACOG Committee on Health Care for Underserved Women. 2011. Committee Opinion No. 479: Methamphetamine abuse in women of reproductive age. *Obstet Gynecol*; 117:751-5.
- Ajayi AF et al. 2020. The physiology of male reproduction: Impact of drugs and their abuse on male fertility. *Andrologia*, 52(9): e13672.
- Brecht ML, Herbeck DM. 2014. Pregnancy and fetal loss reported by methamphetamine-using women. *Subst Abuse*; 8:25-33.
- Chang L, et al. 2004. Smaller subcortical volumes and cognitive deficits in children with prenatal methamphetamine exposure. *Psych Res:Neuroimaging* 132:95-106.
- Chomchai C, et al. 2016. Transfer of methamphetamine (MA) into breast milk and urine of postpartum women who smoked MA tablets during pregnancy: Implications for initiation of breastfeeding. *J Hum Lact*; 32:333-9.
- Chu EK, et al. 2020. Behavior Problems During Early Childhood in Children With Prenatal Methamphetamine Exposure. *Pediatrics*.146(6):e20190270.
- Cohen JM, et al. 2017. Placental complications associated with psychostimulant use in pregnancy. *Obstet Gynecol*; 130(6):1192-201.
- Courtney KE, Ray LA. 2014. Methamphetamine: an update on epidemiology, pharmacology, clinical phenomenology, and treatment literature. *Drug Alcohol Depend*. 1;143:11-21.
- Derauf C, et al. 2012. Prenatal methamphetamine exposure and inhibitory control among young school-age children. *J Pediatr*; 161(3):452-9.
- Dinger J, et al. 2017. Methamphetamine consumption during pregnancy - effects on child health. *Pharmacopsychiatry*; 50(3):107-113.

- Dyk Jv, et al. 2014. Maternal methamphetamine use in pregnancy and long-term neurodevelopmental and behavioral deficits in children. *J Popul Ther Clin Pharmacol*; 21(2):e185-96.
- Eriksson M, et al. 1981. Amphetamine addiction and pregnancy II. Pregnancy, delivery and the neonatal period. Socio-medical aspects. *Acta Obstet Gynecol Scand* 60:253-259, 1981.
- Golub M, et al. 2005. NTP CERHR Expert Panel Report on the reproductive and developmental toxicity of amphetamine and methamphetamine. *Birth Defects Res B Dev Reprod Toxicol* 74(6):471-584.
- Good MM, et al. 2010. Methamphetamine use during pregnancy: maternal and neonatal implications. *Obstet Gynecol*; 116(2 Pt 1):330-4.
- Gorman MC, et al. 2014. Outcomes in pregnancies complicated by methamphetamine use. *Am J Obstet Gynecol*; 211(4):429.e1-7.
- Harst L, et al. 2021. Prenatal Methamphetamine Exposure: Effects on Child Development—A Systematic Review. *Dtsch Arztebl Int*. 7;118(18):313-319
- Heinonen OP, et al. 1977. Birth Defects and Drugs in Pregnancy. Littleton, MA: John Wright-PSG, pp 346-347, 439.
- LaGasse LL, et al. 2011. Prenatal methamphetamine exposure and neonatal neurobehavioral outcome in the USA and New Zealand. *Neurotoxicol Teratol*; 33(1):166-75.
- LaGasse LL, et al. 2012. Prenatal methamphetamine exposure and childhood behavior at 3 and 5 years of age. *Pediatrics*; 129(4):681-688.
- Little BB, et al. 1988. Methamphetamine abuse during pregnancy: outcome and fetal effects. *Obstet Gynecol*; 72:541-4.
- Kalaitzopoulos DR, et al. 2018. Effect of methamphetamine hydrochloride on pregnancy outcome: A systematic review and meta-analysis. *J Addict Med*; 12(3):220-226.
- Kittirattanapaiboon P, et al. 2017. Methamphetamine use and dependence in vulnerable female populations. *Curr Opin Psychiatry*; 30(4):247-252.
- Kwiatkowski MA, et al. 2018. Cognitive outcomes in prenatal methamphetamine exposed children aged six to seven years. *Compr Psychiatry*; 80:24-33.
- Newport DJ, et al. 2016. Prenatal psychostimulant and antidepressant exposure and risk of hypertensive disorders of pregnancy. *J Clin Psychiatry*; 77(11):1538-45.
- Nguyen D, et al. 2010. Intrauterine growth of infants exposed to prenatal methamphetamine: results from the infant development, environment, and lifestyle study. *J Pediatr*; 157(2):337-9.
- Ornoy A. 2018. Pharmacological treatment of attention deficit hyperactivity disorder during pregnancy and lactation. *Pharm Res*; 35:46.
- Pentecost R, et al. 2021. Scoping Review of the Associations Between Perinatal Substance Use and Perinatal Depression and Anxiety. *J Obstet Gynecol Neonatal Nurs*. 50(4):382-391
- Pflügner A, et al. 2018. [Methamphetamine consumption during pregnancy and its effects on neonates]. *Klin Padiatr*; 230(1):31-38.
- Pierce SL, et al. 2019. Methamphetamine-associated cardiomyopathy in pregnancy. *Mayo Clinic Proc* 94(3):551-554.
- Roussotte FF, et al. 2012. Frontostriatal connectivity in children during working memory and the effects of prenatal methamphetamine, alcohol, and polydrug exposure. *Dev Neurosci*; 34(1):43-57.
- Sanjari Moghaddam H, et al. 2021. Effects of Prenatal Methamphetamine Exposure on the Developing Human Brain: A Systematic Review of Neuroimaging Studies. *ACS Chem Neurosci*. 4;12(15):2729-2748.
- Sankaran, D, et al. 2021. Methamphetamine: burden, mechanism and impact on pregnancy, the fetus, and newborn. *J Perinatol*.
- Shah R, et al. 2012. Prenatal methamphetamine exposure and short-term maternal and infant medical outcomes. *Am J Perinatol*; 29(5):391-400.
- Smid MC, et al. 2019. Stimulant use in pregnancy: An under-recognized epidemic among pregnant women. *Clin Obstet Gynecol*; 62(1):168-184.
- Smith LM, et al. 2003. Effects of prenatal methamphetamine exposure on fetal growth and drug withdrawal symptoms in infants born at term. *J Dev Behav Pediatr* 24(1):17-23.
- Smith LM, et al. 2006. The infant development, environment, and lifestyle study: effects of prenatal methamphetamine exposure, polydrug exposure, and poverty on intrauterine growth. *Pediatrics*; 118(3):1149-56.

- Smith LM, et al. 2008. Prenatal methamphetamine use and neonatal neurobehavioral outcome. *Neurotoxicol Teratol*. 30(1):20-28.
- Smith LM, et al. 2011. Motor and cognitive outcomes through three years of age in children exposed to prenatal methamphetamine. *Neurotoxicol Teratol*; 33(1):176-84.
- Stewart JL, Meeker JE. 1997. Fetal and infant deaths associated with maternal methamphetamine abuse. *J Anal Toxicol*; 21(6):515-7.
- Twomey J, et al. 2013. Prenatal methamphetamine exposure, home environment, and primary caregiver risk factors predict child behavioral problems at 5 years. *The American journal of orthopsychiatry*; 83(1):64-72.
- Wouldes TA, et al. 2014. Prenatal methamphetamine exposure and neurodevelopmental outcomes in children from 1 to 3 years. *Neurotoxicol Teratol*; 42:77-84.
- Wright TE, et al. 2015. Methamphetamines and pregnancy outcomes. *J Addict Med*; 9(2):111-7.